Sensory evaluation of three mango varieties in school-aged children

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Objectives

The objective of the study was to evaluate the sensory characteristics of three locally available mango varieties to determine preference among elementary school-aged children (10-12 years).

Design

The experimental design followed a randomized, blind-sensory evaluation procedure in a controlled sensory booth environment. The mango varieties were labeled using color labels and a randomized number that represented each variety. Standardized mango fruit samples were evaluated for appearance, texture, taste, and aroma.

Methods and Instruments

Sensory evaluation was conducted using portable sensory booths to ensure privacy between subjects. A tray with three mango varieties in individual concealed cups with exact proportions (28 grams), a cup of water, 2 no-salt crackers, a spoon and napkin were provided to participants along with three questionnaires corresponding with the order of mango varieties on the tray. The questionnaire included a hedonic scale that assessed attributes of appearance, smell, flavor/taste, texture, and overall acceptability. A Linkert scale measured taste characteristics including honey sweetness, sourness, and hardness. ANOVA and post hoc analysis were conducted to compare the different characteristics of each mango variety.

Results

The results reached statistical significance (p-value < 0.05, $N = 59$) in sourness, softness, hardness, and level of honey sweetness between certain mango varieties. There was no significance in overall acceptability.

Conclusions

The results suggest that all mangos were acceptable, but there was no strong preference for a specific variety by the study population. This information can be important in choice and purchase practices of mangos.

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